

CLAIMPTO

WNP

08/16/2004

1. (Previously presented) A fusion molecule consisting of (a) a peptide consisting of amino acids 12 to 88 of the hepatitis delta antigen (HDAg) or a fragment thereof that forms a coil and (b) at least one binding moiety.
2. (Previously presented) The fusion molecule of Claim 1 wherein the binding moiety is selected from the group consisting of an antigen, an antibody, a single chain antibody, a ligand, a receptor, an enzyme, an oligonucleotide, a promoter binding protein, a label, a growth factor, a cytokine, a nuclease, or a drug.
4. (Original) The fusion molecule of Claim 1 which is a fusion protein.
5. (Previously presented) The fusion molecule of Claim 1 wherein (a) and (b) are chemically linked.
6. (Previously presented) The fusion molecule of Claim 1 wherein the (a) and (b) are expressed as a single unit.
7. (Currently amended) A coiled-coil oligomer comprising at least two fusion molecules of Claim 1, wherein the coiled-coil structure of said coiled-coil oligomer occurs between the hepatitis delta antigen (HDAg) peptides of each of the at least two fusion molecules.
8. (Original) The coiled-coil oligomer of Claim 7 which is an octamer.

9. (Original) The coiled-coil oligomer of Claim 7 wherein two fusion molecules are the same.
10. (Original) The coiled-coil oligomer of Claim 7 wherein two fusion molecules are different.
41. (Previously presented) A method of binding binding partners comprising contacting a fusion molecule of Claim 1 having a first binding moiety with a second binding moiety, wherein the first and second moieties are binding partners, under conditions suitable for binding.
42. (Currently amended) The [[A]] method of Claim 41 wherein the fusion molecule consists of (a) a peptide consisting of amino acids 12 to 88 of the hepatitis delta antigen (HDAg) or a fragment thereof that forms a coil and (b) at least two binding moieties, wherein one binding moiety is the first binding moiety and another binding moiety is the second binding moiety.
43. (Previously presented) The method of Claim 41 wherein the binding between binding partners occurs in solution.
44. (Currently amended) The [[A]] method of Claim 41 wherein the fusion molecule is a subunit of a coiled-coil oligomer comprising ~~at least of the same or different~~ two fusion molecules, wherein the coiled-coil structure of said coiled-coil oligomer occurs between the hepatitis delta antigen (HDAg) peptide of said fusion molecule and another peptide which consists of amino acids 12 to 88 of the hepatitis delta antigen (HDAg) or a fragment thereof that forms a coil.

58. (Previously presented) The fusion molecule of Claim 1 wherein the binding moiety is selected from the group consisting of cytokines, tumor necrosis factor, interferons, interleukins, adenosine deaminase, insulin, T-cell receptors, soluble CD4, epidermal growth factor, human growth factor, cytochrome b, glucocerebrosidase, ApoE, ApoC, ApoAI, the LDL receptor, Fc receptors, plasminogen activators, dopamine, MHC, tumor suppressor genes, monoclonal antibodies, antigen binding fragments of monoclonal antibodies, drug resistance genes and ion channels.

17. (Currently amended) An isolated and purified fusion molecule consisting of:

- a polypeptide having an amino acid sequence selected from the group consisting of an amino acid sequence selected from the group consisting of SEQ ID NOS:1-8, amino acids 12 - 48 of SEQ ID NOS:1-8, amino acids 12 - 60 of SEQ ID NOS:1-8, SEQ ID NO:9, SEQ ID NO:11, amino acids 12 - 48 of SEQ ID NO:11, amino acids 12 - 60 of SEQ ID NO:11, SEQ ID NOS:15-17, SEQ ID NOS:18-20, SEQ ID NO:25, and fragments thereof which form a coiled-coil oligomer when contacted with a peptide consisting of amino acids 12 to 88 of the hepatitis delta antigen (HDAg) or a fragment thereof that forms a coil, wherein the coiled-coil structure of said coiled-coil oligomer is formed between said peptide and said polypeptide; and
- at least one binding moiety.

18. (Previously presented) A peptide consisting of amino acids 12 to 88 of the hepatitis delta antigen (HDAg) wherein a serine residue is substituted with cysteine.

19. (Currently amended) An isolated and purified molecule comprising:

- a polypeptide consisting of an amino acid sequence of amino acids 12 - 88 of HDAg, or a fragment thereof which forms a coiled-coil oligomer when contacted with a peptide consisting of amino acids 12 to 88 of the hepatitis delta antigen (HDAg) or a fragment thereof that forms a coil, wherein the coiled-coil structure

of said coiled-coil oligomer is formed between said peptide and said polypeptide;
and
(b) a nuclear localization signal.